

## REFERENCES

- ALLEN, G. M. (1938) : The Mammals of China and Mongolia. *Natural History of Central Asia*. 19(1) : New York.
- ANDERSON, J. (1875) : Description of some new Asiatic Mammals and Chelonia. *Ann. Mag. nat. Hist.* 16 : 282-285.
- (1897) : Anatomical and Zoological researches : Comprising an account of the Zoological results of the two expeditions to Western Yunnan in 1868 and 1875. Vol. 2 : Bernard Quaritch, London.
- BLANFORD, W. T. (1888) : The Fauna of British India. Mammalia. Taylor & Francis, London.
- ELLERMAN, J. R. & MORRISON-SCOTT, T. C. S. (1951) : Checklist of palaearctic and Indian mammals. British Museum, London.
- KURODA, N. (1935) : Formosan Mammals preserved in the collection of Marquis Yamashina. *J. Mammal.* 16 : 277-291.
- PETTER, F. (1963) : Un nouvel insectivore du Nord de l'Assam : *Anourosorex squamipes schmidt* nov. subsp. *Mammalia* 27 : 444-445.
- WROUGHTON, R. C. (1916) : Bombay Natural History Society's Mammal Survey of India, Burma and Ceylon. Report No. 25. *J. Bombay. nat. Hist. Soc.* 24 : 758-773.

3. BLACK JACKALS (*CANIS AUREUS* LINN.) IN KERALA

Prater says in his BOOK OF INDIAN ANIMALS (1965 : 126) that black jackals 'are not uncommon in north India'. I wonder whether melanism in the jackal has been reported at all from south India. Perusal of the last 15 years' issues of this *Journal* helped to reveal nothing more than that the jackal has been badly neglected by our naturalists ; I did not find a single note on this common animal. It may be of interest, therefore, to record some casual observations of a jackal pack found on the island of Dharmadam, Tellicherry taluk, which when first seen consisted of four adults : a black male, a grey female which was pregnant and two other grey animals one of which was a male. The pregnant female had cubs sometime late in March, 1969. Of the cubs one was an exact miniature of the black male.

Soon after my arrival at Dharmadam in the third week of October, 1968, the members of my family became deeply interested in a pair of jackals of which one was jet black with a thin white stripe down the centre of its chest. The other was a normal grey coloured female with a swollen belly and prominent teats. Occasionally these two were accompanied by two other normal jackals, with black only on the terminal two-thirds of their tails.

At first we thought that the black male, which looked larger than the three grey animals, was a village dog gone feral and living with the jackals. It not only looked larger and longer in the leg than the normal jackals, but had a tail which resembled an Alsatian's rather than the 'brush' of a jackal. But the animal reacted to the presence of dogs exactly as the normal jackals did ; and dogs chased it just as they did other jackals. Moreover, in the frequent 'concerts' that we heard, there was no sound suggesting the barking or howling of a dog. For a time I

thought that the black animal might be a hybrid ; but local people swear that the pi-dog never associates or has associated with jackals, and that the black animal is hundred per cent jackal.

On 3-i-1969 the black male was seen with the pregnant female and a grey adult. The female had a 'full' belly and her teats swung about as she moved. On 31-i-69 at about 7 p.m. a jungle crow's excited cawing led to the discovery of a female jackal which had something black in its mouth. This thing was alive and whimpered exactly as a little pup would do. The jackal was running up and down in the dark shadows of bushes and I could note little more than that the thing in its jaws was no crow or crow's nestling.

Forty days later, on 13-iii-69, at 10 p.m. the rustling of dry leaves and a low whimpering drew our attention to a coal black cub and two brownish cubs in our backyard. The black cub was at the foot of a steep cutting while the other two were on the ledge above, trying hard to come down. All three uttered a low 'kyoo-kyoo . . . kyoon kyoon-kyoom . . . kyoom' sound from time to time.

During the next eleven days we did not see the cubs. On the 24th of March they reappeared and were to be seen thereafter during the day, and for hours, playing or resting among dry bushes under a macaranga tree near a fence. Their camp was a compound full of pits and trenches.

On 7-iv-69 at 7.15 p.m. the cubs came down the cutting into our backyard and began playing in the brilliant moonlight like puppies. In the hope of attracting the jackal pack I had laid out a number of pieces of an over-ripe jack fruit in the backyard. The cubs repeatedly went up to these and nibbled. Hoping to draw them closer, I placed some rice and chappathis on a low parapet near them. On seeing me advancing they ran away though they had taken little notice of the six of us sitting 25 yards away under a 100-watt bulb. Fifteen minutes later the black cub came on to our verandah, sniffing and searching for food. It found and ate the pieces of chappathi I had strewn in the courtyard. Some time later all three cubs came right up to where my wife was sitting in a cane chair, but ran off when we moved. When we threw more chappathis to them the black cub and one of the grey cubs readily picked them up. We noted that they depended on their sense of smell to find the food, seeming to be unable to see things close to their faces.

I was able to study the cubs closely and found that the black one was an exact replica of the black male. It had the same white stripe down the middle of its chest. Of the other two cubs one was fawn-coloured and had strikingly white underparts. The last had the same grey and brown, or black and brown, mixture as a normal jackal. This cub had the terminal half of the tail black whereas the paler cub had very little black on its tail. The tails of all three were thin and tubular, without

any suggestion of the adults 'brush'. Of the three the smartest and the prettiest was the fawn-coloured cub.

At 7.15 the next evening the black and the grey cubs came to our courtyard and ate chappathis avidly. The black one came up the steps and to the threshold itself. All night we heard their whimpering, and at 10 p.m., a regular 'concert' by the adults in our backyard. The fawn coloured cub was never seen after the 7th.

At 7 a.m. on the 9th the black cub, the black adult and a grey adult were seen together. A little later the black adult and two grey adults were seen running away. Of the cubs there was no sign. At 8.10 a.m. the black cub, the black adult and two grey adults crossed the railway lines in front of our house, but less than half an hour later the black cub was back under the macaranga tree and the adults were nowhere to be seen.

Almost all day the black and the grey cubs were under the tree. At 6.30 p.m. they came down and each ate two cashew fruits which were on the ground. At this time a watchful grey adult was lying on a low bank, betrayed only by the occasional movements of its head and ears. An hour later the cubs came to our courtyard. I had scattered morsels of a sweetmeat made of rice dough, coconut gratings and jaggery. These the black cub ate with obvious relish ; but the grey hid in the shadows, picking up courage to advance into the well-lit courtyard only at the end, in time to get the last two pieces of the sweetmeat.

On the 10th the cubs were not seen in the day-time, but appeared at 7.30 p.m. ready to eat whatever we had to offer. Unfortunately their arrival coincided with that of a train and a crowd of noisy people in front of our house. These noises frightened the grey cub and it bolted, followed soon after by the black one. That was the last we saw of the cubs. They never came again to their usual haunts. But the adult black and the three grey adults continue to be seen here. On 20-iv-69 at 7 p.m. all four adults were in the area where the cubs used to spend the day between 24th March and 7th April.

*General remarks :* At first the cubs reacted to the beam of an electric torch quite unpredictably. Sometimes they smartly withdrew into the shadows of plantain trees and coconut trees, remaining there until the torch was switched off. Sometimes they behaved as if they were unaware of the bright beam. After they had got used to being examined by torch light, they ignored the light of a 500 watt bulb which I switched on again and again very close to them in my misguided attempts to photograph them.

The adults would normally stare for a few moments at the torch and scamper off. But on two occasions when a grey adult was with the cubs and the torch was directed their way, the adult uttered a single, short, gruff bark, a note resembling a dog's gruff bark on suddenly noting a

stranger at the gate. After uttering this note the adult ran off leaving the cubs to shift for themselves. I suspect that the short bark was a note of warning to the cubs and not one of fear or anger.

Local jackals are very fond of ripe mango, jack and cashew fruits. They consume large numbers of the fruit of the fishtail palm also and are largely responsible for the dispersal of the seed. Jackals are said to be a great scourge to vegetable gardeners for they have a great weakness for cucumber and melon.

At 11.30 a.m. on 20-iii-69 a grey adult jackal carried off a month-old goat kid. It was the sudden hue and cry raised by koels, racket-tailed drongos and jungle crows that drew our attention to the jackal on this occasion. The koel I have found gets greatly upset and excited every time it notices a jackal passing. Common mynas utter their harsh alarm notes only at times, perhaps only when one of them is on the ground or is a juvenile. Crows normally ignore the jackal unless it happens to be carrying something in its mouth.

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April 23, 1969.

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#### 4. OCCURRENCE OF THE WOOLLY FLYING SQUIRREL, *EUPETAURUS CINEREUS* THOMAS (MAMMALIA : RODENTIA : SCIURIDAE) IN NORTH SIKKIM

Recently a specimen collected from North Sikkim (alt. 3000 metres) was sent by the Director (Locust Control) for Plant Protection, to this department for identification and subsequent donation to the National Zoological Collections. It has been identified as *Eupetaurus cinereus* Thomas, which according to authoritative literature (Blanford 1888 ; Ellerman & Morrison-Scott 1951 ; Ellerman 1963) is expected to occur only in Kashmir and Chitral (West Pakistan). The specimen in question is a flat skin without skull. In external characters it is very similar to the description given in standard literature and the 'Cotype' present in the collection of the Zoological Survey of India. There are, however, some minor differences as mentioned below.

Dorsal hairs slaty on base and grey at tip, giving it a slate-grey appearance with slate dominating as against the grey colour of the 'Cotype'. The tail almost of the same colour as body but the tips of hairs are rusty-grey. Ventral colour light ashy with a median longitudinal line of coarse hairs, light grey in colour. Due to lack of sufficient material and the date of collection of the specimen under report, it is difficult to say whether this difference in coloration is a seasonal variation